What Is Claimed Is:

1. A method for determining a state of a vehicle battery, the method comprising:

measuring a voltage of the battery; and

deriving information regarding the state of the battery from the measured battery voltage using an integration procedure, a variable weighting factor being taken into account in the integration procedure.

2. The method according to claim 1, wherein the weighting factor is a function of the measured battery voltage.

3. The method according to claim 2, further comprising calculating the weighting factor according to the following correlation:

$$a(U) = \sum_{i=1}^{n} k_i \bullet a_i(U),$$

k_i being prefactors that are varied adaptively, and $a_i(U)$ being weight functions.

4. The method according to claim 3, wherein the prefactors are adapted as a function of status information.

5. The method according to claim 4, further comprising determining the status information, at least one of (a) using an open-circuit voltage measurement, (b) using signals provided by an electrical energy management, (c) utilizing information on occurring load jumps and (d) utilizing information regarding occurring voltage dips.

6. The method according to claim 2, further comprising:

predefining an upper voltage threshold value and a lower voltage threshold value; and

determining the weighting factor according to the following correlation:

if a measured battery voltage value lies between the upper and lower voltage threshold values, the weighting factor has the value 0, and

if a measured battery voltage value is one of less than the lower voltage threshold value and greater than the upper voltage threshold value, the weighting factor has the value 1.

7. The method according to claim 6, further comprising forming a difference within the framework of the integration procedure in which half of a sum of the upper and lower voltage threshold values is subtracted from the measured battery voltage.

8. The method according to claim 7, wherein the following correlation is used to ascertain the information regarding the state of the vehicle battery:

$$L(t) = \int_{to}^{t} D(\tau) \bullet a[U(\tau)] d\tau .$$

where it applies:

$$D(\tau) = U(\tau) - \frac{U1 + U2}{2}$$

and L(t) being the measured battery voltage; D(τ) a differential function; a[U(τ)] the weighting factor; U1 the upper voltage threshold value; and U2 the lower voltage threshold value.

9. A device for determining a state of a vehicle battery, comprising:

a battery voltmeter; and

an evaluation unit coupled to the battery voltmeter for deriving information regarding the state of the vehicle battery as a function of a measured battery voltage using an integration procedure, the evaluation unit taking into account a variable weighting factor in the integration procedure.

10. The device according to claim 9, wherein the evaluation unit calculates the weighting factor according to the following correlation:

$$a(U) = \sum_{i=1}^{n} k_i \bullet a_i(U),$$

k_i being prefactors that are varied adaptively, and $a_i(U)$ being weight functions.

11. The device according to claim 10, wherein the evaluation unit has at least one input for status information and is provided for an adaptation of the prefactors as a function of the status information.

12. The device according to claim 9, wherein the evaluation unit calculates the weighting factor according to the following correlation:

$$a(U) = \begin{matrix} 0 \text{ for } U2 \leq U \leq U1 \\ 1 \text{ for } U2 > U \text{ or } U1 < U, \end{matrix}$$

U1 being a predefined upper voltage threshold value and U2 a predefined lower voltage threshold value.

13. The device according to claim 9, wherein the evaluation unit implements the following differential formation:

$$D(\tau) = U(\tau) - \frac{U1 + U2}{2}$$

U1 being a predefined upper voltage threshold value, U2 being a predefined lower voltage threshold value, and U(τ) being a measured battery voltage value.

14. The device according to claim 13, wherein the evaluation unit implements the following integration procedure:

$$L(t) = \int_{to}^{t} D(\tau) \bullet a[U(\tau)] d\tau.$$